HP StorageWorks

HP-UX connectivity 3.0G for the EVA3000/EVA5000 Enterprise Virtual Array release notes

Part number: 5697–5226
Sixth edition: March 2005

HP-UX connectivity 3.0G for the EVA3000/EVA5000 Enterprise Virtual Array release notes

About this document

This document includes the following topics:

- Release notes information
- Intended audience

Release notes information

These release notes cover the following topics:

- New features
- EVA storage system
- EVA compatability
- Supported servers
- Storage System Scripting Utility for EVA
- Avoiding problem situations

Intended audience

This document is intended to assist customers who purchased the HP StorageWorks Enterprise Virtual Array (EVA) to use with a HP-UX operating system.

This document is also intended for use by HP customer service personnel responsible for installing and maintaining devices connected to the EVA.

New features

The following are major enhancements included in this release:

- Support provided for Virtual Controller Software (VCS) 3.025
- EVA boot functionality provided with Secure Path 3.0E
- Veritas Storage Foundation Suite 3.5 supported on HP-UX 11iV1.0

NOTE:

Dynamic multipathing support is not included.

EVA storage system

This document contains the most recent product information about operating the EVA on a system running HP-UX software.

EVA documentation

A complete library of EVA and related documentation is available at the following web sites.

http://www.hp.com/go/eva5000

http://www.hp.com/go/eva3000

Support release information

The latest product support release information and downloads for storage products are available at the following web site.

http://h18006.www1.hp.com/storage/index.html

Supported configurations

Supported configurations are described in the *Enterprise Virtual Array QuickSpecs*, available at the following web sites:

http://h18006.www1.hp.com/products/storageworks/eva3000/specifications.html

http://h18006.www1.hp.com/products/storageworks/eva5000/specifications.html

The *HP StorageWorks SAN design reference guide* is a detailed guide for SAN configurations and is available at the following web site.

http://h18004.www1.hp.com/products/storageworks/san/documentation.html

EVA compatibility

Table 1 lists the operating system's specifications.

NOTE:

Table 1 contains minimum-level operating system specifications at the time of the EVA 3.025 release. Some component versions may change due to revision. The latest information is available at the following web site: http://h18006.www1.hp.com/storage/index.html.

Table 1 Operating system specifications

HP-UX OS version	Clustering	FCA (HBA)	Adapter firmware version (minimum)	Adapter driver version (minimum)
11.00	MC/ServiceGuard A.11.13, A.11.14 or later	A5158A 1GB PCI	Native	11.00.10
		A6685A 1GB HSC	Native	11.00.10
		A6795A 2GB PCI	Native	11.00.10
11iV1.0	MC/ServiceGuard A11.13, A11.14, A.11.15, or later	A5158A 1GB PCI	Native	11.11.09
		A6685A 1GB HSC	Native	11.11.09
		A6795A 2GB PCI	Native	11.11.09
		A6826A	Native	11.11.0x
		A9782A	Native	11.11.09
		A9784A 2GB	Native	11.11.09
11iV2.0	MC/ServiceGuard A.11.15 or later	A6795A 2GB PCI	Native	11.23.xx
		A9782A	Native	11.11.09
		A9784A 2GB	Native	11.11.09

Table 2 lists the minimum patch revisions.

Table 2 Patch revisions

HP-UX version	Minimum patch revisions
11.00	PHKL_30511 EVA cumulative patch
11iV1.0	Hardware Enablement Bundle HWEnable 11iB.11.11.0312.4 PHKL_29985 (VxFS cumulative) PHKL_29826 – getmount_entry PHKL_27266 – (u)mount performance PHKL_28984 – Fibre Channel mass storage patch PHKL_28695 VM patch PHKL_28238 Early KRS PHKL_27321 Early KRS PHKL_28569 WSIO patch PHKL_29047 SCSI IO cumulative patch PHKL_30218 Dump Patch2 for EVA support PHKL_30219 Dump Patch1 for EVA support PHKL_30511 EVA cumulative patch PHKL_30622 LVM cumulative patch PHCO_29495 libc cumulative patch PHCO_29905 mount(1M) cumulative patch PHCO_27957 umount(1M) cumulative patch PHCO_27958 mountall cumulative patch PHCO_27959 umountall(1M) cumulative patch PHCO_28651 VxVM Enterprise Administrator srvc patch PHCO_28656 VxVM Enterprise Administrator patch
11iV2.0	PHKL_30511 EVA cumulative patch

Firmware revision

EVA firmware code 3.025 is used in this release of the HP-UX connectivity for EVA.

Switch support

This release supports the Fibre Channel switches and firmware versions listed in the *HP StorageWorks SAN design reference guide* , available at the following web site:

http://h18000.www1.hp.com/products/storageworks/san/documentation.html.

NOTE:

HP recommends that you do not mix switch firmware versions in your SAN. It is considered a best practice to uniformly upgrade all switches in the SAN.

Multiple-path support

HP-UX with EVA storage requires the installation of StorageWorks Secure Path on each host to achieve high availability multiple path capability.

Single-path support

HP-UX servers require a single FCA to support single-path mode.

NOTE:
Single-path mode should not be used in mission critical environments.

Supported servers

Table 3 lists the EVA-compatible HP-UX servers.

NOTE:
Veritas Volume Manager for HP-UX is not supported in EVA 3.025.

Table 3 EVA compatible HP-UX servers

PA Risc	rp24xx		
	B2600		
	C3700	C3750	
	J6750		
	Kx60	Kx70	Kx80
	rp54xx		
	rp74xx	rp8400	
	V2200 V2600	V2250	V2500
	SD16000	SD32000	SD64000
Itanium®	rx5670 zx6000	rx2600	zx2000
	rx4640		
	rx7620		
	rx8620		
	SD Integrity		

Operating constraints

You can find operating constraints specific to the EVA and Command View EVA in their respective release notes.

Failover/failback

Failback preference settings for the HSV controllers are specific to the operating system. Refer to the HP StorageWorks Enterprise Virtual Array release notes for details.

Storage System Scripting Utility for EVA

The Storage System Scripting Utility (SSSU) communicates directly with the Command View EVA. Refer to the *Command View EVA release notes* prior to using the SSSU.

Avoiding problem situations

The following sections describe problems that may arise and their solutions.

Known problems

You can find problems specific to the EVA and Command View EVA in their respective release notes.

Secure Path version

The EVA with VCS 3.025 requires the latest version of Secure Path for your operating system. The current version of Secure Path for your operating system can be found at the following web page.

http://h18006.www1.hp.com/products/storageworks/enterprise/specifications.html

Codeload usage

When a maximally configured system is running at maximum load, Secure Path timing constraints make codeload functionality ineffective. The system may time-out before codeload is complete. Therefore, you should perform VCS upgrades at an off-peak time.

SSSU

Changing comments on a disk enclosure

Use Command View EVA to change comments on a disk enclosure. If you try to change a disk enclosure comment using the SSSU, the following error message appears:

```
Error:  Invalid Operation
```

Changing the name of a disk enclosure

Changing the name of a disk enclosure is not supported with the SSSU or with Command View EVA. If you try to change a disk enclosure name using the SSSU, the following error message appears:

```
Error:  Invalid Operation
```

Logical Volume Manager

When creating snapshots or clones of a device that is managed by Logical Volume Manager (LVM), take care to properly configure LVM. After creating a snapshot or clone of a physical volume, always run `vgchgid(1M)` to break the association between the volume group and the snapshot or clone. Otherwise, snapshots or clones appear to LVM as an alternate path to the original physical volume. This could lead to data corruption if the snapshot or clone is later added to the volume group using `vgextent(1M)`, `vgimport(1M)`, or `vgscan(1M)`.

When a path to a device managed by LVM becomes unavailable because of a controller, path link, switch, or HBA failure, I/O requests can be delayed for up to one minute after the failure. As a result, the responsiveness of mirrored logical volumes may be affected briefly. When a physical volume becomes unavailable, applications may experience a delay while an I/O request to that physical volume times out. By default, this delay takes 30 seconds, but you can change the time-out value using the `pvchange(1M)` command.

For a read, LVM selects another mirror and requests I/O again. For a write, LVM records the error, and continues if the data has been written to at least one mirror. In either case, with Secure Path installed, this initial time-out may take up to one minute longer. After initial time-out, LVM stores the physical volume status as unavailable, and henceforth, I/O requests do *not* suffer this delay.

Overloaded EVA configurations

Under conditions where multiple servers are overloading an EVA, the boot or reboot of one of the servers may time-out. If the combined delayed access to EVA LUNs takes more than 10 minutes, the boot does not complete. To avoid this situation, restart the boot process and reduce the load to the EVA.

WARNING!

Persistent EVA overload may indicate an overloaded configuration and additional array host port resources may be required to match the configuration to the actual workload. Consult your local HP account or service representative for help to properly configure the EVA for your newly designed or existing configuration.

High availability environment recommendations

In high availability environments, under heavy I/O loads, you may experience I/O time-out conditions. If I/O timeouts occur, HP recommends that you use the `pvchange` command to increase the IO_timeout value from the default value of 30 seconds to no more than 60 seconds. Under heavy I/O load conditions, the increased IO_timeout value allows for longer I/O completion times and for LUN access delays if a controller failover condition occurs.

NOTE:

Ensure that you have HP MC/ServiceGuard configured properly. For details, go to: http://docs.hp.com/hpux/ha/index.html#ServiceGuard.

Selecting the management appliance

The drop-down menu for selecting the management appliance or cells does not work consistently. Use the following command to access the GUI for the SSSU:

```
# gsssu
```

In the command text box, enter the SSSU command you want to perform. For example:

```
select manager ip_address username=xxxx password=xxxx
```